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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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COGNIS CORPORATION PATENT DEPARTMENT 300 BROOKSIDE AVENUE AMBLER, PA 19002			BADIO, BARBARA P	
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DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

(11) Response to Argument



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 05182004

Application Number: 09/923,629
Filing Date: August 07, 2001
Appellant(s): WOLLMANN ET AL.

Aaron R. Ettelman
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 15, 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences that will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that all claims stand or fall together.

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,670,669	HUNT	9-1997
5,703,252	HUNT et al.	12-1997
6,448,423	HERNANDEZ et al.	9-2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3, 6-9 and 13-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al. ('252) and Hunt ('669) in combination.

Hunt et al. ('252) teach a process for the recovery of tocopherols from a starting material containing fatty and sterol compounds, such as distillates of vegetable oils and fats (see the entire article, especially col. 4, lines 23-58). The reference teaches (a) esterifying the free fatty acids preferably with a lower alcohol; (b) transesterifying the fatty acid glyceride esters present by mixing said tocopherol mixture with a lower alcohol in the presence of a zinc catalyst; (c) removal of the excess lower alcohol, zinc catalyst, fatty acid alkyl ester and glycerol and (d) for complete conversion of sterol esters in the tocopherol mixture to free sterols, reacting said tocopherol mixture obtained with a lower alcohol in the presence of an alkoxide catalyst in order to produce a tocopherol mixture containing free sterols and fatty acid alkyl esters (see col. 3, line 47 – col. 4, line 67). The reference teaches the transesterification of sterol esters is preferably conducted at a temperature between about 150°C and about 240°C and in reaction times of 10 minutes or more, such as 1 to about 3 hours under pressure (see col. 6, lines 24-44).

Hunt ('669) teaches a similar process for the recovery of tocopherols from a mixture comprising of fatty acids, sterols and tocopherols (see the entire article, especially col. 2, line 66 – col. 3, line 62). The reference teaches (a) esterification of the free fatty acids present in the mixture with lower or higher alcohols (see col. 3, lines 19-22 and col. 4, lines 1-5); (b) transterifying fatty acid esters present in the mixture with a lower alcohol in the presence of a basic catalyst such as potassium hydroxide and sodium methoxide (see col. 3, lines 23-25 and col. 9, lines 9-28) and (c) removal of excess lower alcohol, basic catalyst, fatty acid alkyl ester and glycerol (see col. 3, lines 26-35 and col. 6, line 67 – col. 7, line 13).

Based on the combined teachings of the above cited references, the recovery of sterols from starting materials containing fatty and sterol compounds such as vegetable oils by a process comprising the removal of the free fatty acids by esterification; transesterification of the fatty acid glyceride esters in the presence of a lower alcohol and basic catalyst; removal of the excess alcohol, basic catalyst, fatty acid alkyl ester and glycerol; and conversion of the sterol esters in the product obtained by transesterification would be obvious to the skilled artisan in the art at the time of the invention.

The instant claims differ by reciting the transesterification of the sterol esters is at a temperature of from 115°C to 145°C and a pressure of from 2 to 10 bar for a period of from 3 to 10 hours. However (a) Hunt et al. ('252) teach said transesterification can be done at temperatures between **about** 150°C and about 240°C and in reaction times of 10 minutes or more, such as **1 to about 3 hours** under pressure and (b) optimization of

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the reaction by variation in reaction conditions such as, temperature, pressure and/or reaction time is with the level of skill of the ordinary artisan. The motivation to make changes to the reaction conditions would be based on the desire to obtain optimum conditions resulting in increase yield of the desired product. Thus, the claimed process would have been obvious based on prior art teachings and the level of skill of ordinary artisan in the art at the time of the invention.

The limitations recited in claim 31 are noted. However, as stated in the present specification, said follow-up processes for concentration sterols are known in the art (see page 9, paragraph 0038). Thus, concentration of said sterols as recited by the instant claim would be obvious to the skilled artisan in the art at the time of the invention.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al. ('252) and Hunt ('669) in combination as applied to claim 1 above, and further in view of Hernandez et al. ('423).

Claims 4 and 5 further differ by reciting the removal of free fatty acids by neutralization utilizing sodium metasilicate, precipitation and separation. However, Hernandez et al. ('423) teach silicate solutions, for example sodium metasilicate, are useful in removal of free fatty acid in crude oils such as crude vegetable oils (see the entire article, especially col. 3, lines 45-58). Therefore, the removal of free fatty acid by the use of sodium metasilicate would have been obvious to the skilled artisan at the time of the instant invention. The motivation to modify the process taught by Hunt ('252

and '669) by removing the free fatty acid by neutralization with a silicate solution such as sodium metasilicate is based on the teachings of Hernandez that said is a non-caustic means for removal of impurities from vegetable oils and a desire to obtain alternate means of removal of free fatty acids from mixtures such as vegetable oils.

(11) Response to Argument

Applicant argues (a) the examiner's interpretation of the claims is incorrect because the examiner ignores the word "mild" in the claims and the portion of the specification directed to its meaning and (b) the rejections under 35 USC 103(a) are improper because the cited prior art do not teach the mild transesterification conditions employed in the first transesterification according to the claimed invention. Applicant's argument was considered but not persuasive for the following reasons.

First, limitations in the specification cannot be read into the claims although the specification is utilized in determining the claimed invention. Applicant argues that the present specification defines the term "mild". The examiner notes that according to the present specification, the term "mild" is established through the reaction temperatures or through the reaction time. The specification further states what the preferred conditions are. However, the examiner is not permitted to read said preferred embodiment into the claim language. It is also noted that claims reciting said preferred embodiment are allowable over the art of record. However, claims not reciting said limitations are inclusive of conditions as taught by the prior art based on present specification.

For the record, the examiner notes that said portion of the specification referred to by applicant was not ignored by the examiner. However, the preferred limitation recited by the present specification was not read into the instant claims.

Applicant argues the prior art does not teach the mild transesterification conditions employed in the first transesterification according to the claimed invention. According to applicant, (a) the conditions in Hunt '252 are different than the conditions set forth in the present specification as being mild; (b) both transesterifications in Hunt '252 are conducted under identical conditions and (c) Hunt '669 discloses the production of free sterol whereas under applicant's claimed mild transesterification conditions, the sterol esters remain predominantly bound and only a small amount of free sterols is formed.

In response to applicant's argument, it is noted that the specific conditions set forth in the present specification are defined as the preferred conditions and not "the" mild conditions of the claimed invention. In essence, applicant's claimed mild condition is not limited by said disclosure in the present specification. The examiner notes that the only requirement is that said "mild" conditions be established through the reaction temperature or reaction time and, thus, is inclusive of any reaction temperature and/or time that would permit said transesterification process to run.

Applicant also argues that the prior art teaches identical conditions for both transesterification steps. The examiner notes that based on the present specification, the reaction conditions of the claimed first and second transesterification steps could be identical. For example, if the claimed "mild" condition is established through the

reaction temperatures and one looks at the preferred temperature range disclosed by the present specification, it is obvious that the temperature of both transesterification steps can be within the range of 115 C to 145 C as recited by the instant claims for the second transesterification step. Thus, if the "mild" condition of the first transesterification step is established through the reaction temperature and the other reaction parameters are as defined for the second transesterification step, the reaction conditions of the two transesterification steps of the claimed invention would be identical. Therefore, like the prior art, the claimed invention encompasses the use of identical reaction conditions.

Lastly, applicant argues Hunt '669 discloses the production of free sterol whereas under the claimed mild conditions, the sterol esters remain predominantly bound. The issue is not what the prior art discloses as being produced but whether the prior art makes obvious the claimed conditions, process etc. as set forth by the instant claims. One of ordinary skill in the art would have the reasonable expectation that under similar conditions, the claimed process would have similar results as taught by prior art. It would also be obvious to the skilled artisan that any change in the reaction condition would alter the amount of the end product produced. Thus, the utilization of the various conditions disclosed by the present specification as the preferred "mild" conditions would result in the production of various amounts of free sterols.

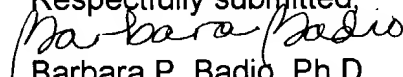
In summary, the instant claims do not define the "mild" conditions of the claimed process. The present specification discloses some preferred conditions but said can not be read into the claimed invention. Thus, based on the present specification that

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said mild conditions are established through reaction temperatures or reaction time, said can not be limited to any set of specific conditions as defined by the present specification. The present specification also does not eliminate the use of identical conditions for both transesterification steps. Therefore, the claimed process is prima facie obvious in view of the cited prior art.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Barbara P. Badio, Ph.D.
Primary Examiner
Art Unit 1616

BB

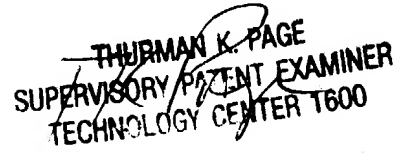
May 18, 2004

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